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| 10/586,402 | 07/18/2006 | Jarkko Viinikanoja | 879A.0110.U1(US) | 2571 |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/586,402

Applicant(s)

VIINIKANOJA ET AL.

Examiner

QUANG V. LE

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 19-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the amendment file on 11/16/2009.
2. **Claims 1-9 and 19-32** have been examined and are pending. **This action is made Final.**

Response to Arguments

3. Claim Objections

Applicant amended claims 2-9 and 19-27 to correct the informalities is acknowledged. As such, the objection to claims 2-9 and 19-27 is withdrawn. Please note that claim 1 was not amended to correct the informalities.

4. Prior Art Rejection

Applicant's arguments filed on 11/16/2009 have been fully considered but are moot in view of the new ground of rejection. Applicant's amended claims **1-9 and 19-28 and added claims 29-32** set forth in applicant's response is acknowledged.

Claim Objections

5. **Claims 1 and 30** are objected to because of the following informalities:

Claim 1 does not have the articles (a, an or the) at the beginning of the claim.

Claim 30 cites "The method according to claim 1". Claim 1 claims an Electronic equipment and claim 19 claims a method. Claim 30 should be dependent on claim 19 and not claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9, 19-26 and 28-32 are rejected under 35 U.S.C. 103(a) as being anticipated by Ishikawa (US 6,549,650), in view of Inaba (US 5,778,268).

As per claim 1, Ishikawa teaches an electronic equipment comprising:

camera means configured to form data of an object located in an imaging direction, said camera means comprises at least two camera units **6701a** and **6701b**, which mutual position is configured to be adjusted to correspond to a determined imaging mode **stereoscopic view** (col 49, lines 36-43) and wherein the adjusting of the mutual position is configured such that altering mutual distance between the camera units and turning of the camera until relative to each other, if the mutual position of the

camera units do not correspond to the determined imaging mode (figures 55 and 56, col 48, lines 12-67 to col 49, lines 1-36)(*the image sensing units paralleling displaced is similar to altering the mutual distance between the camera units, and the rotating angle Φ in figure 55 represents the turning of the camera unit as cited in the claim*);

a processor **6704** configured to process the data formed by the camera means, according to the determined imaging mode of the equipment, in order to form image information (figure 44 and col 46, lines 46-54).

Ishikawa teaches the invention in claim 1, except the following:

wherein the adjusting of the mutual position is configured such that altering mutual distance between the camera units is configured to cause turning of the camera until relative to each other, if the mutual position of the camera units do not correspond to the determined imaging mode.

However, Inaba teaches a Stereo camera that has two optical system **4R** and **4L** (figure 2) that rotate to change the optical axis due to shifting cam **17R** and **17L** when the distance between the optical axis is changed (figure 2 and col 4 lines 63 to col 5, lines 19). As such, the distance between the two optical system (axis) changes causes the optical system to rotate (turning) as cited in the claim.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to incorporate the shifting cam design as taught by Inaba into Ishikawa multi-eye camera so as to provide the mechanism for automatically adjusting the distance between the optical axes, allowing the adjustment of the distance between

the optical axes to be manually executed as required to cope with both the cases that the rapid taking is required and that the complete parallax correction is required by one stereo camera (Inaba: Col 2, lines 21-31).

As per claim 2, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the mutual position of the camera units relative to each other is arranged to be altered by the camera units being manually moved by the user (col 49, lines 36-43). *The user moves the camera units by using the control button 7503.*

As per claim 3, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches the equipment additionally includes a display component **73** arranged on one side of the equipment, wherein the camera units (**75a and 75b**) are arranged on the opposite side of the equipment relative to the display component (figures 12A, 12B and col 19, lines 21-30).

As per claim 4, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the camera units **1002** and **1003** are connected to each other (figure 36).

As per claim 5, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the processor **6704** is configured to manage

the imaging modes (**stereoscopic view**) and to process according to the determined selected imaging mode (figure 44 and col 41, lines 18-45).

As per claim 6, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the processor **6704** is configured to form 3D image information (**stereoscopic view**) from the data formed by the camera means (figure 44 and col 41, lines 18-45). *The stereoscopic view is analogous to the three dimensional view (col 25, lines 24-37).*

As per claim 7, Ishikawa in view of Inaba teaches the equipment according to Claim 6, Ishikawa further teaches wherein the processor **6704** is configured to process image errors (figure 51 and col 46, lines 34-54). *The deviation amount p is analogous to the image errors as cited in the claim.*

As per claim 8, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the processor is configured to combine the data formed by the camera means, at least partly to increase the resolution of the image information (col 29, lines 46-61). *The panoramic image resolution is higher than each of the two original images.*

As per claim 9, Ishikawa in view of Inaba teaches the equipment according to claim 1, Ishikawa further teaches wherein the processor is configured to combine the

data formed by the camera means, at least partly to permit a panorama-imaging mode (col 29, lines 46-61).

As per claim 19, this claim is rejected because it recites the subject matters that were previously discussed in claim 1.

As per claim 20, this claim is rejected because it recites the subject matters that were previously discussed in claim 2.

As per claim 21, this claim is rejected because it recites the subject matters that were previously discussed in claim 3.

As per claim 22, this claim is rejected because it recites the subject matters that were previously discussed in claim 6.

As per claim 23, this claim is rejected because it recites the subject matters that were previously discussed in claim 7.

As per claim 24, this claim is rejected because it recites the subject matters that were previously discussed in claim 8.

As per claim 25, this claim is rejected because it recites the subject matters that were previously discussed in claim 9.

As per claim 26, this claim is rejected because it recites the subject matters that were previously discussed in claim 1.

As per claim 28, this claim is rejected because it recites the subject matters that were previously discussed in claim 1.

As per claim 29, Ishikawa in view of Inaba teaches the equipment according to Claim 1, Inaba further teaches the equipment comprising a mechanical connection (17R, 17L and 18) between the camera units, wherein the mechanical connection is configured to cause the turning of the camera units relative to each other to correspond to the current imaging mode in response to the mutual distance between the camera units being altered (figure 2).

As per claim 30, this claim is rejected because it recites the subject matters that were previously discussed in claim 29.

As per claim 31, this claim is rejected because it recites the subject matters that were previously discussed in claim 29.

As per claim 32, this claim is rejected because it recites the subject matters that were previously discussed in claim 29.

7. **Claim 27** is rejected under 35 U.S.C. 103(a) as being anticipated by Ishikawa in view of Inaba as applied to claim 26 above, in view of Orimoto (US 7,102,686).

As per claim 27, Ishikawa in view of Inaba teaches the camera module according to Claim 26, it fails to explicitly disclose wherein an index patterning is arranged in the camera module, to lock the distance between the camera units to correspond to the determined imaging mode.

However, Orimoto teaches an image capturing apparatus having a plurality of image capturing modules that can be arranged to capture three-dimensional or panoramic images (abstract). From figure 1, in three-dimensional mode, the second camera **14** is connected to the first camera **12** through the guiding joints poles **32** and joint holes **24**. These guiding joints provide a fixed index patterning that lock the distance between the two camera units as cited in the claim.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate camera guiding joints as taught by Orimoto into Ishikawa in view of Inaba camera module so that the camera units can be reconfigured quickly when the capture mode is switched.

Examiner's Note

The Examiner cites particular figures, paragraphs, columns and line numbers in the reference(s), as applied to the claims above. Although the particular citations are representative teachings and are applied to specific limitations within the claims, other

passages, internally cited references, and figures may also apply. In preparing a response, it is respectfully requested that the Applicant fully consider the references, in their entirety, as potentially disclosing or teaching all or part of the claimed invention, as well as fully consider the context of the passage as taught by the reference(s) or as disclosed by the Examiner.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang V. Le whose telephone number is (571) 270-5014. The examiner can normally be reached on Monday through Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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